STATE OF VERMONT

PUBLIC SERVICE BOARD

Investigation into (1) whether Entergy Nuclear Vermont Yankee, LLC, and Entergy Nuclear Operations, Inc., (collectively, "Entergy VY"), should be required to cease operations at the Vermont Yankee Nuclear Power Station, or take other ameliorative actions, pending completion of repairs to stop releases of radionuclides, radioactive materials, and, potentially, other non-radioactive materials into the environment; (2) whether good cause exists to modify or revoke the 30 V.S.A. § 231 Certificate of Public Good issued to Entergy VY; and (3) whether any penalties should be imposed on Entergy VY for any identified violations of Vermont statutes or Board orders related to the releases	)	Docket No. 7600

INITIAL BRIEF OF ENTERGY NUCLEAR VERMONT YANKEE, LLC, AND ENTERGY NUCLEAR OPERATIONS, INC., CONCERNING THE JURISDICTION OF THE PUBLIC SERVICE BOARD IN DOCKET NO. 7600

INTRODUCTION

Entergy Nuclear Vermont Yankee, LLC, and Entergy Nuclear Operations, Inc. (collectively, "Entergy VY"), submit this brief concerning the scope of the jurisdiction of the Public Service Board (the "Board") in this docket ("Docket 7600"), as allowed by the Board's Prehearing Conference Memorandum dated March 18, 2010 (hereinafter referenced and cited as "Prehearing Order") and its Order of May 14, 2010. The Board has previously recognized that the question of federal preemption of this docket—and, particularly, of the relief sought by certain other parties in this docket—is in part a *legal* question requiring "more extensive legal briefing." In that regard, the U.S. Supreme Court has made clear that, as a matter of law, any state action that would have a "direct and substantial" effect on nuclear-plant construction or operations is preempted by federal law. *English v. General Electric Co.*, 496 U.S. 72, 85

(1990).[1] Under that standard, the Board is preempted from granting any of the relief sought in this docket with respect to the leakage because ordering the Vermont Yankee Nuclear Power Station ("VY Station") to cease operations or take other ameliorative actions, modifying or revoking the VY Station's existing certificate of public good ("CPG"),[2] or imposing penalties on Entergy VY for violating Vermont statutes or Board orders related to the releases would each have a "direct and substantial" effect on decision-making with respect to the VY Station's construction and operations.[3]

The Board has previously concluded that this docket is not preempted if there is an economic, rather than a safety, basis for the Board to act. That conclusion is, however, not consistent with the Supreme Court's rulings in this area. As the Supreme Court explained in the *General Electric* case, a "broad suggestion that safety motivation is necessary to a finding that a particular state law falls within the occupied field lacks merit." *Id.* at 212 & n.7. Thus, the Board is preempted with respect to the actions it is being asked to take in this docket even if the Board has no safety concerns with respect to the tritium leakage and is focused solely on the economic effects (if any) of the leakage.[4]

The Board misinterprets the Supreme Court's decision in *Pacific Gas & Electric Co. v. State Energy Resources Conservation & Development Commission*, 461 U.S. 190 (1983) [herein referenced and cited as "*PG&E*"] when it cites that case for the proposition that it has

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[1] Exceptions, not relevant here, exist for state action in areas delegated to the states by Congress (such as air pollution) or state action pursuant to a formal agreement with the NRC. The Supreme Court has also stated that certain other areas of state law, for example state labor laws, would not satisfy the "direct and substantial test." *See infra* at 18.

[2] The subject of any future CPG (for operations after March 21, 2012) is the subject of a separate proceeding in Docket No. 7440.

[3] The subject of penalties with respect to alleged misrepresentations made concerning underground piping at the VY Station is not the subject of this docket, but is a subject in Docket No. 7440.

[4] Although Entergy believes that preemption exists here as a matter of law, it reserves the right to submit a supplemental brief addressing factual claims made in affidavits that the Board's Order of 5/14/2010 allows parties to file following discovery on Entergy VY. *See* Order of 5/14/2010 at 10.

jurisdiction over the construction and operation of the VY Station so long as its actions are "economically" motivated.[5] While the Supreme Court in *PG&E* explained that Congress did not intend to preempt traditional state authority with respect to authorizing new utility plants, and therefore a state may prohibit the building of nuclear utility plants on economic grounds, the Court was equally clear that once a new plant has been approved, its construction and operation are beyond a state's authority regardless of the state's motivation:

> At the outset, we emphasize that *the statute does not seek to regulate the construction or operation of a nuclear powerplant.* It would clearly be impermissible for California to attempt to do so, for such regulation, *even if enacted out of non-safety concerns*, would nevertheless directly conflict with NRC's exclusive authority over plant construction and operation.

461 U.S. at 212 (emphases added).

Applying the "direct and substantial" test to each order sought by other parties in this docket demonstrates that each is preempted. The U.S. Court of Appeals for the Second Circuit has held that state action to stop operation of a nuclear plant is preempted, as have other courts. Any "ameliorative actions" ordered in response to the leakage presumably would require or create incentives to introduce changes to plant construction or operations and therefore are preempted as well. Revocation or modification of the existing CPG—as a response to a tritium leakage—is preempted for the same reasons. Imposing penalties for violation "of Vermont statutes or Board orders related to the releases" is one means of regulating construction and operations with respect to releases and hence is also preempted; in the analogous context of tort actions, courts consistently have held that liability based on violation of state emissions standards

[5] *See, e.g., Pet. of Entergy VY for a CPG to construct a dry fuel storage facility at the VY Station*, Docket No. 7082, Order of 4/26/2006 at 15-16

is preempted. Finally, even putting aside the relief sought, under Second Circuit precedent a conclusion should be reached that the entire investigation into the leakage is preempted.

While Entergy VY believes that this docket is preempted as a matter of federal law, it wishes to emphasize that it is not seeking to exclude all state agencies from the role they have already played with respect to the now-stopped leakage. From the beginning, Entergy VY has complied not only with federal Nuclear Regulatory Commission ("NRC") regulations and oversight, but also has voluntarily cooperated with state agencies, including the Department of Health ("DOH"), Agency of Natural Resources ("ANR"), and Vermont Emergency Management, in investigating and monitoring the leakage and its effects. A team of Vermont health and environmental experts have been regularly on-site as independent analysts. Entergy VY's goal, like that of the Board, is to keep Vermont's citizens fully apprised about all significant aspects of the VY Station's operations so that they can understand and fully appreciate the substantial overall benefits that the plant provides to the state.

In summary and for the reasons given herein, the Board should conclude that it is preempted from issuing the orders against Entergy VY and the VY Station that have been sought by other parties in this docket and from investigating the leakage for that purpose. While Entergy VY does not by this brief move the Board to close this docket, it agrees with the International Brotherhood of Electrical Workers that, in light of this preemption analysis and given that of much of the relief sought is moot, the Board should consider taking that step.

BACKGROUND

I. NRC Regulation of Releases of Radionuclides

Before turning to the specific leakage of tritium at the VY Station and the response thereto that is the subject of this docket, it is important to recognize the comprehensive nature of the federal regulations governing the release of radionuclides. The federal government has

implemented a set of comprehensive regulatory requirements pertaining to protection against all radiation hazards associated with the operation of commercial nuclear-power plants, such as the VY Station. These regulations, promulgated under the authority of the Atomic Energy Act (at 42 U.S.C. § 2201(b)), are largely codified in 10 CFR Part 20 and Part 50. These regulations govern permitted radiation doses to both plant workers (10 CFR Part 20 Subpart C) and to members of the public (10 CFR Part 20 Subpart D). The regulations also require a radiation-protection program to ensure compliance with the radiological regulations (10 CFR Part 20 Subpart B) and set out detailed requirements for surveys and monitoring (10 CFR Part 20 Subpart F), record keeping (10 CFR Part 20 Subpart L), and reporting to the NRC (10 CFR Part 20 Subpart M), including reporting of radiation exposure to the public in excess of regulatory limits, 10 CFR § 20.2203(a)(2)(iv). Table 2 in Appendix B to 10 CFR Part 20 provides a detailed, isotope-by-isotope prescription for limits "applicable to the assessment and control of dose to the public."

Appendix I to 10 CFR Part 50 provides further requirements for radiation control, including additional requirements for an appropriate surveillance and monitoring program (Section IV.B to Appendix I) and specifies actions that must be taken if "the quantity of radioactive material actually released in effluents to unrestricted areas from a light-water-cooled nuclear power reactor [such as the VY Station] during any calendar quarter" exceeds prescribed limits (Section IV.A to Appendix I). 10 C.F.R. 50.75(g). These actions include:

1. Make an investigation to identify the causes for such release rates;
2. Define and initiate a program of corrective action; and
3. Report these actions as specified in § 50.4 within 30 days from the end of the quarter during which the release occurred.

Other regulations at 10 CFR § 50.75(g) require maintenance of records concerning contamination on the site.

Not only do NRC regulations dictate how licensees such as Entergy VY must handle radioactive materials (including tritium), but NRC regulatory guidance also specifies precisely how licensees must comply with those regulations. For example, NUREG 1575 "provides detailed guidance for planning, implementing, and evaluating environmental and facility radiological surveys conducted to demonstrate compliance with a dose- or risk-based regulation." Multi-Agency Radiation Survey and Site Investigation Manual, at Roadmap-1 (August 2000). A host of other NRC documents govern implementation of the radiation regulations mentioned above, specifying, *inter alia*, equipment to be used for radiation measurements, quality assurance requirements to be implemented and how calculations based on actual measurements are to be made.[6]

II. The Tritium Leakage at Vermont Yankee

On January 7, 2010, Entergy VY received confirmation that a groundwater-monitoring well at the VY Station contained tritium. Entergy VY immediately notified the NRC, various Vermont agencies and other stakeholders and began working intensively to identify and stop the leakage. *See* Docket 7600, Sworn Affidavit of Timothy G. Mitchell, filed 3/31/10, pp. 3-4 (hereinafter, "Mitchell Affidavit").

The tritium leakage resulted in an examination and review of the VY Station's construction and operation and also raised issues of radiological safety. Accordingly, throughout the process of responding to the leakage the NRC—which as described above

[6] These include: Regulatory Guide 1.21, "Measuring, Evaluating, and Reporting Radioactivity in Solid Wastes and Releases of Radioactive Materials in Liquid and Gaseous Effluents from Light-Water-Cooled Nuclear Power Plants" (Rev. 2, June 2009); Regulatory Guide 4.1, "Radiological Environmental Monitoring For Nuclear Power Plants" (Rev. 2, June 2009); Regulatory Guide 4.15, "Quality Assurance for Radiological Monitoring Programs (Inception Through Normal Operations to License Termination)—Effluent Streams and the Environment" (Rev. 2, July 2007); NUREG-1301, "Offsite Dose Calculation Manual Guidance: Standard Radiological Effluent Controls for Pressurized Water Reactors" (Apr. 1991); NUREG-1302, "Offsite Dose Calculation Manual Guidance: Standard Radiological Effluent Controls for Boiling Water Reactors" (Apr. 1991); and Regulatory Guide 1.109, "Calculation of Annual Doses to Man from Routine Releases of Reactor Effluents for the Purpose of Demonstrating Compliance with 10 CFR Part 50, Appendix I (Rev. 1, Oct. 1977)."

extensively regulates the VY Station with respect to radionuclide emissions—has played a central role. Entergy VY notified the NRC of the leakage on January 7, 2010, the day it was confirmed, and since that day the NRC has been monitoring the leakage and Entergy VY's response to it. *See* Docket 7600, Sworn Affidavit of Jeffery A. Hardy, filed 3/31/10, Ex. EN-JH-1, ¶¶ 8, 11 (hereinafter "Hardy Affidavit"). Entergy VY has fully complied with the NRC investigation, including allowing open, on-site access to officials, participating in daily conference calls and meeting regularly on-site with state and federal officials. *See* Docket 7600, Sworn Affidavit of Timothy C. Trask, filed 3/31/10, p. 10. In this regard, from January 25, 2010, until April 14, 2010, the NRC conducted an on-site inspection of Entergy VY's response to the tritium leaks. Letter of Darrell J. Roberts, NRC Director of Reactor Safety, addressed to Michael Colomb, Site Vice President, dated April 16, 2010, p. 1 (hereinafter, the "Roberts Letter").

With oversight by the NRC and working with state agencies, Entergy VY took steps to locate and stop the leakage and is continuing to take steps to remediate the leakage. Immediately upon discovering the leakage, Entergy VY formed a "Tritium Team" consisting of both internal and external experts in fields such as environmental monitoring, hydrogeology, chemistry and radiation protection, among others, whose focus was to identify and fix the source of the tritium leakage. *See* Mitchell Affidavit at 3. Over the course of the next several weeks, the Tritium Team identified two sources of the tritium leakage at the VY Station and stopped any further leakage. *Id.* at 5-7. Having identified and stopped the sources of the leakage, the Tritium Team has taken steps to remediate the problems that led to the leakage. *Id.* at 7-10.

Entergy VY kept various Vermont agencies fully informed about its investigation and analyses of the leakage. Entergy VY contacted multiple Vermont agencies, including the DOH,

Vermont Department of Public Service ("DPS") and ANR. *See* Hardy Affidavit, Ex. EN-JH-1, ¶ 11. Each of these agencies participated in or observed the investigation into the leakage. *Id.* In addition, the state's Radiological Health Chief and State Nuclear Engineer were on-site and were provided regular updates on Entergy VY's response to the leakage. *Id.*

Both the NRC and Vermont authorities have confirmed that the leakage from the sources identified by Entergy VY has been stopped. In a letter detailing the preliminary results of its inspection of Entergy VY's response to the detection of tritium, the NRC noted the swift action taken by Entergy VY to identify the leakage and confirmed that the leakage had been stopped: "upon indication of groundwater contamination in early January 2010, Entergy VY initiated immediate actions to review and assess the condition. By mid-February, Entergy VY identified and terminated the leak of tritiated water from an underground pipe vault . . ." Roberts Letter at 2. DOH also has confirmed that the leakage from the pipe tunnel stopped. In detailing its investigation, the DOH concluded that "[s]teadily decreasing tritium concentrations in samples taken from the groundwater monitoring well next to the pipe tunnel confirm that this leak has been stopped." *See* Vermont Department of Health website, http://healthvermont.gov/enviro/rad/yankee/tritium.aspx (last visited May 13, 2010).

The NRC has further confirmed that no adverse health, safety or environmental effects resulted from the leakage and that no federal standards for the release of tritium were violated by the leakage. As the NRC's preliminary investigation results state:

> Relative to the impact of the AOG system leak on public health and safety, as well as its impact on the environment, the NRC, based on its inspection, determined that Entergy appropriately evaluated the contaminated groundwater with respect to off-site effluent release limits and the resulting radiological impact to public health and safety; and that Entergy complied with all applicable regulatory requirements and standards pertaining to radiological effluent monitoring, dose assessment, and radiological

> evaluation. Based on our reviews, we have concluded that *no violations of NRC requirements were identified.*

Roberts Letter at 2 (emphasis added). Elaborating on its findings, the NRC specifically stated that there was no adverse effect on public health and safety or on the environment as a result of the leakage:

> [T]he NRC independently confirmed that:
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> Regarding the tritium contaminated groundwater condition, *the public's health and safety, and the off-site environment were not adversely affected.* To date, plant-related radioactivity, including tritium, has not been detected in any samples of water, river sediment, or fish collected from the Connecticut River; or in any drinking water wells, on- or off-site; and only tritium has been identified in any on-site groundwater monitoring well.
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> * * *
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> Regarding the soil contaminated with low levels of cesium-137, cobalt-60, zinc-65, and manganese-54 that was found in the immediate vicinity of the leakage from the AOG system pipe vault area, *there is no radiological significance relative to public health and safety.* Sampling indicated very limited migration in the immediate area, which is typical and expected for these radionuclides. Entergy took appropriate precautions to protect onsite workers and has initiated action to remove the contaminated soil and dispose of it in accordance with NRC regulatory requirements.

Id. (emphases added). Moreover, the NRC found the potential for only minimal exposure to the public as a result of the leakage and concluded that any such potential exposure was well within federal regulatory standards:

> The estimated dose to the maximum exposed member of the public due to potential groundwater migration to the adjacent Connecticut River is less than 0.01 millirem in a year, i.e, *well below the established limits of: NRC's 100 millirem per year dose limit for individual members of the public* [10 CFR Part 20.1301 (a)], Environmental Protection Agency's (EPA) 25 millirem per year specification for an individual member of the public [10 CFR Part 20.1301 (e)], and NRC's liquid effluent As Low As is Reasonably

> Achievable (ALARA) design criteria of 3 millirem per year [10 CFR Part 50, Appendix I].

Id. (emphasis added).

III. The Establishment of This Docket

While the NRC was conducting its investigation and review of the leakage, this Board also was asked to review various aspects of the incident. On January 25, 2010, in Docket No. 7440, Conservation Law Foundation ("CLF") requested that the Board issue an order to Entergy VY to show cause why the Board should not immediately shut the VY Station down pending completion of leak repairs. Docket 7600, Order of 2/25/2010 at 2 (hereinafter cited as "Initial Order").

On February 3, 2010, Entergy VY filed an opposition to CLF's show-cause request, asserting that federal law preempted the Board from investigating the leaks and from ordering the VY Station to shut down. Entergy VY argued, *inter alia*, that the requested shutdown of the plant in response to the tritium leakage was an attempt to regulate the radiological safety of the plant, which was preempted by the NRC's exclusive federal jurisdiction over matters of nuclear safety.

On February 25, 2010, the Board denied CLF's motion but opened this docket to investigate, among other matters, whether Entergy VY "should be required to cease operations at the [VY Station], or take other ameliorative actions, pending completion of repairs to stop releases of radionuclides, radioactive materials, and, potentially, other non-radioactive materials into the environment." *Id.* at 1. The Board stated that the docket would also "consider whether good cause exists to modify or revoke the [Entergy VY's] Certificate of Public Good . . . and whether any penalties should be imposed on Entergy VY for any identified violations of Vermont statutes or Board orders related to these releases." *Id.* at 9.

With respect to the preemption question raised by Entergy VY, this Board affirmed its lack of jurisdiction over radiological safety issues, but questioned whether preemption was a complete bar to the Board's investigation, suggesting that the leakage might implicate other, "non-preempted" subject matters:

> With respect to federal preemption, it is clearly established that the Board would be preempted from attempting to regulate Vermont Yankee based on radiological safety. However, it is also well established that the Board retains significant authority in other areas of traditional state regulation. This retained state authority includes some regulation related to land-use and economic issues (including reliability issues) associated with nuclear material, other than matters of radiological safety.

Id. at 6.

Along similar lines, this Board also preliminarily indicated that federal preemption may not prevent it from taking some or all of the actions against Entergy VY urged by certain other parties to this proceeding, though it found that "more extensive legal briefing by the parties" was necessary on this issue:

> [W]e conclude that we are not preempted from taking action in response to the leaks at Vermont Yankee, to the extent that the leaks may have economic and other non-radiological-health-and-safety consequences and to the extent that our action neither conflicts directly with the NRC's exercise of its federal jurisdiction nor frustrates the purposes of the federal regulation.
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> * * *
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> Whether the Board could order the shut down of Vermont Yankee in response to these concerns, or in response to environmental damage associated with the leaks, is less clear, and requires more extensive legal briefing by the parties. Even if we were to conclude that we were ultimately preempted from closing down the plant, however, there may be other non-preempted actions we could take to ameliorate economic and land-use impacts of the leaks.

Id. at 7-8.

Following the establishment of the docket, on March 10, 2010, the Board held a Prehearing Conference to set a schedule for the docket. Members of the Board again expressed concerns about whether it would be preempted from taking the actions urged by the parties at the outset of the investigation:

> One other concern I have about this, and I want to be clear about it, is that I think we have to be pretty careful about what we are doing here. Because . . . of the preemption issue. We don't want to just quickly move in and take some action that could end up being preempted by the federal government and kind of oust us out of what position we do have.

Tr. 3/10/2010 at 28 (Volz). As a result, the Board stated that the first issue dealt with in the docket would be briefing on the jurisdictional question, preceded by a short period for jurisdictional discovery. *Id.* at 33–35, 45.

In the resulting order, the Board asked Entergy VY to provide brief testimony on the leakage, to be followed by discovery related to the jurisdictional issue and then briefing on the jurisdictional issues. Prehearing Order at 4.

IV. The Discovery Requests Served on Entergy VY in This Docket

Unsurprisingly given that the subject matter of this docket is a tritium leak from pipes at a nuclear plant, the vast majority—indeed, nearly all—of the discovery requests served on Entergy VY in this docket relate directly to issues of the VY Station's construction, operation and radiological health and safety. Typical of the requests are the following requests from ANR:

> Q.ANR:EN.1-16: Has VY ever evaluated the risk of radionuclide leakage for applicable structures, systems, and components?
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> a. Identify any and all inspections and evaluations undertaken, for what structures, systems, and components, and for what period of time.
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> b. If there have been evaluations for the risk of radionuclide leakage for applicable structures,

systems, and components, identify any and all risks previously noted or reported and identify and explain any and all remediation or corrective or preventative actions taken to prevent such leakage.

Q.ANR:EN.1-18: Identify any and all factors that will be considered in deciding whether and in what circumstances to replace or relocate below-grade pipe to above ground.

Q.ANR:EN.1-45: Please produce any and all documents that Entergy VT has in its possession having to do with the human health effects of tritium. Please provide any and all documents on which you rely for your response.

In short, it is clear that the discovery requests are seeking information directly concerning the issues of plant construction and operation and radiological safety.

In response to the discovery requests, on April 30, 2010, Entergy VY filed a Motion to Modify the Prehearing Conference Memorandum and to Enlarge the Time for Entergy VY to Respond to Pending Discovery Requests. In that motion, Entergy VY asked the Board, *inter alia*, to modify the Prehearing Order so that the jurisdictional question is resolved before Entergy VY must respond to discovery requests concerning the VY Station's construction or operations or radiological safety. The Board granted that motion in part on May 14, 2010, extending Entergy VY's time to respond to all discovery until ten days after completion of the current refueling outage. In its order enlarging time the Board did not discuss the subject of preemption.

ARGUMENT

As recounted above, this Board recognized that there is a substantial issue of federal preemption with respect to this docket and, as a consequence, requested legal briefing on the scope of its jurisdiction. *Supra* at 11-13. Entergy VY submits that federal law preempts the investigation ordered in this docket as well as each potential action with respect to Entergy VY and the VY Station that the Board has been asked to consider taking by other parties in this docket.

I. Federal Law Preempts State Action Motivated by Radiological Safety *Or* Having a Direct and Substantial Effect on Plant Construction or Operation

A. Federal Law Preempts Not Only State Safety Regulations, But All State Regulations Having a Direct and Substantial Effect on Nuclear-Plant Construction or Operations Whatever Their Purpose

It is uncontroversial, and the Board has acknowledged in this docket, that Congress by statute preempted the entire field of regulation of nuclear and radiological safety. Initial Order at 6. There appears to be some confusion, however, about precisely what that means, and in particular what the relevance to preemption is of the motivation or purpose behind a state's regulatory actions—*i.e.*, does the fact that a state's regulatory action is motivated by economics rather than safety exclude it from the scope of federal preemption? A review of the relevant preemption decisions of the U.S. Supreme Court and other federal and state courts demonstrates that the answer to that question is no when it comes to state action having a direct and substantial impact on nuclear-plant construction or operation, the motivation of the state is not dispositive.

The Atomic Entergy Act, as amended, provides that "the [NRC] shall retain authority and responsibility with respect to regulation of (1) the construction and operation of any production or utilization facility," such as a nuclear power plant. 42 U.S.C. § 2021(c). The breadth and extent of NRC authority over "construction and operation" is seen in the comprehensiveness of NRC regulations in this area. In addition to the extensive regulations governing the release of radionuclides (including tritium), *see supra* at 5-6, the NRC's regulations govern all aspects of nuclear construction and operation, from plant design (10 CFR Part 50 Appendix A) all the way through to decommissioning (10 CFR §50.33(f); 10 CFR §50.75).[7]

[7] The NRC, for example, also regulates physical security, including the qualifications for security officers and the minimum weaponry that must be available (10 CFR Part 73). The NRC regulates fire protection, including how many people must be on the fire brigade each shift and their training and equipment (10 CFR § 50.38 and Part 50 Appendix R). The NRC regulates the training requirements for reactor operators (10 CFR Part 55) and how many licensed operators must be on-site and present at the controls at all times (10 CFR § 50.54(k), (m)). It regulates the specifications for systems to address emergency reactor cooling (10 CFR Part 50 Appendix K). It regulates the

In areas concerning plant construction and operation subject to regulation by the NRC, there is *field* preemption prohibiting concurrent regulation by the states. As the Supreme Court explained in the seminal case *PG&E*, 461 U.S. 190 (1983):

> The Atomic Energy Act of 1954 grew out of Congress' determination that the national interest would best be served if the Government encouraged the private sector to become involved in the development of atomic energy for peaceful purposes under a program of federal regulation and licensing. The Act implemented this policy decision by providing for licensing of private construction, ownership, and operation of commercial nuclear power reactors. The AEC, however, was given exclusive jurisdiction to license the transfer, delivery, receipt, acquisition, possession and use of nuclear materials. *Upon these subjects, no role was left for the states.*

Id. at 206-207 (emphasis added). By way of example, the Court in *PG&E* reviewed its earlier summary affirmance in *Northern States Power Co. v. Minnesota*, 447 F.2d 1143 (8th Cir. 1971), aff'd 405 U.S. 1035 (1972), and explained that in that case "Minnesota's effort to regulate radioactive waste discharges from nuclear plants fell squarely within the field of safety regulation reserved for federal regulation." *Id.* at 212 & n. 24.[8]

This Board has read *PG&E* as leaving the door open to state regulation of nuclear-facility operations motivated by reasons other than nuclear safety, but that reading overlooks a key—and

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requirements for quality assurance programs (10 CFR Part 50 Appendix B), and it regulates what steps must be taken if any defects are identified implementing such programs, or otherwise (10 CFR Part 21). The NRC prescribes fitness-for-duty requirements for employees, drug and alcohol testing requirements, acceptable cutoff levels and even how test samples must be collected and handled (120 CFR Part 26).

[8] Under this framework, courts have consistently concluded that state regulatory actions with respect to nuclear facilities are preempted if the purpose behind the action is nuclear safety, including the radiological *environmental* effects of nuclear facilities. *See PG&E*, 461 U.S. at 212 ("[T]he federal government maintains complete control of the safety and 'nuclear' aspects of energy generation .... [T]he federal government has completely occupied the entire field of nuclear safety concerns, except the limited powers expressly ceded to the states [concerning air pollution and certain siting and land use requirements]"); *Pennsylvania v. Lockheed Martin Corp.*, 2010 WL 456810, *19 (M.D. Pa. Feb 1., 2010) ("[T]he federal government occupies the field of nuclear safety entirely, and this field preemption is all encompassing where that [sic] state statute at issue involves nuclear safety."); *Connecticut Coalition Against Millstone v. Connecticut Siting Council*, 286 Conn. 57, 79 (2008) ("[A] decision by the council denying certification on the basis of environmental effects caused by radiation hazards would conflict with the NRC's regulations expressly authorizing such facilities as a safe method of storing spent nuclear fuel").

unambiguous—aspect of the decision. In concluding that *PG&E* establishes a "non-safety" exception from field preemption, the Board is focusing on a part of the decision analyzing whether a California law prohibiting state certification of the construction of *new* utility nuclear plants (until federal regulators approved a demonstrated means of waste disposal) was preempted. *Id.* at 198. In addressing that question, the Court explained that states cannot refuse to permit new utility nuclear plants based on nuclear safety concerns, but they can refuse to permit new utility plants under "their traditional responsibility in the field of regulating electrical utilities for determining questions of need, reliability, cost and other related state concerns." *Id.* at 205. As the Court observed, a state can prevent "the construction of new nuclear plants by refusing on economic grounds to issue certificates of public convenience in individual proceedings." *PG&E*, 461 U.S. at 216. This is so even if the "economic" concerns arise from a clearly nuclear issue such as waste disposal at the proposed facility. In the *pre-construction* context, in other words, the motivation of the State is highly relevant to the preemption analysis.[9]

The part of the *PG&E* decision on which the Board has focused does *not* permit a state to regulate the construction and operation of an approved or existing plant on the basis that, *e.g.*, an operational issue has economic consequences for the state. That issue is addressed by a *different* section of the *PG&E* decision, one in which the Court unambiguously explained that states *are preempted* from regulating plant construction and operations, even if the regulations in question are motivated by non-safety concerns (including economic concerns). As the Court stated:

> At the outset, *we emphasize that the statute does not seek to regulate the construction or operation of a nuclear powerplant.* It would clearly be impermissible for California to attempt to do so, for such regulation, *even if enacted out of non-safety concerns*,

[9] *PG&E* was decided at a time when non-utility nuclear plants such as the VY Station did not exist. Whether states have the same extent of non-preempted authority with respect to non-utility plants as with utility plants, even in the pre-construction context, has not yet been addressed. It is worth noting, however, that many of the traditional state concerns identified by the Supreme Court in *PG&E* would not appear applicable to non-utility plants.

> would nevertheless directly conflict with NRC's exclusive authority over plant construction and operation.

461 U.S. at 212 (emphases added). Under *PG&E*, in other words, while state regulatory actions based on radiological safety concerns are always preempted, economic concerns that might permit a state to prevent a new utility nuclear plant from ever being built do not save from preemption an effort by the state to regulate the construction or operation of the plant once approved.[10]

In subsequent cases, the Supreme Court elaborated on the extent to which state laws and regulations fall within the exclusive federal jurisdiction to regulate nuclear-plant construction and operation. In *General Electric*, the Court, quoting *PG&E*, set forth the rule that "state regulation of matters directly affecting the radiological safety of nuclear-plant construction and operation, '*even if enacted out of non-safety concerns*, would nevertheless infringe upon the NRC's exclusive authority.'" *General Electric*, 496 U.S. at 84 (emphasis added). In doing so, the Court again expressly rejected the contention that the Board has stated here—that state laws and regulations adopted out of a motivation *other than* nuclear safety necessarily fall outside of the preempted field—by stating that a "broad suggestion that safety motivation is necessary to a finding that a particular state law falls within the occupied field lacks merit." *Id.* at 212 & n.7. Rather, the Court held that state regulations promulgated out of non-safety concerns are still preempted whenever such regulations "have some *direct and substantial effect* on the decisions made by those who build or operate nuclear facilities concerning radiological safety levels." *General Electric*, 496 U.S. at 85 (emphasis added).

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[10] This is especially true for non-utility nuclear plants, the costs of which are recovered through wholesale rates regulated exclusively by the Federal Energy Regulatory Commission, rather than through retail rates regulated by the states. 461 U.S. at 205-06 ("*With the exception of the broad authority of ... the Federal Energy Regulatory Commission* ... these economic aspects of electrical generation have been regulated for many years and in great detail by the States [emphasis added]").

B. Courts Have Found Preemption of a Broad Array of State Regulations of Nuclear Facilities

The "direct and substantial" test established by the Supreme Court was intended only to permit, and in application has only permitted, state regulations that are truly "tangential" to plant construction and operations to survive preemption. As the Court explained the rationale for the "direct and substantial" test in *General Electric*:

> not every state law that in some remote way may affect the nuclear safety decisions made by those who build and run nuclear facilities can be said to fall within the pre-empted field. We have no doubt, for instance, that the application of state minimum wage and child labor laws to employees at nuclear facilities would not be pre-empted, even though these laws could be said to affect tangentially some of the resource allocation decisions that might have a bearing on radiological safety.

496 U.S. at 85. Accordingly, federal and state courts applying the "direct and substantial" test have found a broad array of state regulatory actions directly concerning the construction and operation of nuclear plants to be preempted. Courts also have made clear that states cannot leverage regulations in the areas left open to them under federal law to obtain any influence over plant construction or operations—such efforts have consistently been held preempted.

For instance, the Tenth Circuit struck down on preemption grounds a Utah law that, *inter alia*, prohibited counties from providing "municipal-type services including fire protection, garbage disposal, water, electricity, and law enforcement" to spent-nuclear-fuel facilities and required such facilities to pay to the state 75% of the "potential unfunded liability" of the project. *Skull Valley Band of Goshute Indians v. Nielsen*, 376 F.3d 1223 (10th Cir. 2004). While the laws at issue involved state attempts to regulate areas of traditional state concern (municipal services) and were motivated by economic concerns (unfunded liability prevention), the Tenth Circuit nonetheless found that the laws in question had a direct and substantial effect on radiological health and safety and were thus preempted. *Id.*

In *United States v. Manning*, 434 F.Supp.2d 988 (E.D. Wa. 2006), the U.S. District Court for the Eastern District of Washington (and later U.S. Court of Appeals for the Ninth Circuit) considered a state law concerning the release of "mixed" radiological and non-radiological waste. Finding the statute preempted, the Eastern District of Washington explained:

> The concern of Section 5(1) [of the state statute] with "uncontrolled" environmental releases of AEA materials constitutes a "nuclear safety concern" and it has a direct and substantial effect on the decisions of those who operate nuclear facilities, such as the United States Department of Energy (DOE) at Hanford, concerning radiological safety levels. The "entire field of nuclear safety concerns" includes "uncontrolled" releases of AEA material.

434 F.Supp.2d at 996. As the court went on to explain, "*[e]ven if there were a non-safety rationale for the [state statute], the [statute] is field preempted* because it has a direct and substantial effect on the decisions made by those who build or operate nuclear facilities concerning radiological safety levels." *Id.* at 1006 (emphasis added).

Other cases have similarly described the limited regulatory reach of states' power over a facility operating under an NRC license, even if there is some economic concern at issue. For example, in *Maine Yankee Atomic Power Co. v. Bonsey*, 107 F.Supp.2d 47 (D. Me. 2000), the court stated that "the state cannot stand in the way of Maine Yankee's operational fuel storage plans, once they are approved by the NRC, on the grounds that the cost of future transfer or handling of the spent fuel may be high and plaintiff cannot post security satisfactory to the state to cover any economic contingencies," *id.* at 57; *see also Connecticut Coalition Against Millstone v. Connecticut Siting Council*, 286 Conn. 57, 80-81 (2008) (agreeing with the conclusions in *Maine Yankee* that a state "could not use financial concerns to regulate 'indirectly' a spent fuel facility that NRC has already approved" and that state regulations of an operational plant are limited to "areas unconnected with radiological, operational, construction or

safety issues ...."); *United Nuclear Corp. v. Cannon*, 553 F.Supp. 1220, 1232 (D.R.I. 1982) (holding that a state statute requiring nuclear-processing plant that had ceased operations to post a ten-million-dollar, twenty-year bond to cover any expenses incurred by the state in decontaminating areas surrounding the plant was preempted by federal law).

Case after case is to similar effect. Indeed, in every published decision we have identified in which a state has sought an injunction to affect the construction or continued operation of a nuclear facility, whether motivated by safety concerns or other (such as economic) concerns, a court has found such action preempted. *See, e.g.*, *United States v. Comm. of Kentucky*, 252 F.3d 816, 823-24 (6th Cir. 2001) (state permit condition enjoining nuclear facility from disposing of radioactive materials at the plant preempted by federal law); *Jersey Power and Light Co. v. Township of Lacey*, 772 F.2d 1103, 112 (3d Cir. 1985) (state law enjoining facility from importing nuclear waste based on "avowed economic purpose" preempted by federal law); *People of the State of Illinois v. General Electric Co.*, 683 F.2d 206, 215-16 (7th Cir 1982) (same); *Washington State Building and Construction Trades Council v Spellman*, 684 F.2d 627, 630 (9th Cir. 1982) (same); *Brown v. Kerr-McGee Chemical Corp.*, 767 F.2d 1234, 1240 (7th Cir. 1985) (state injunction ordering removal of wastes containing both non-radiation and radiation hazards preempted by federal law); *Comm. of Pennsylvania v. General Public Utilities Corp.*, 710 F.2d 117, 119-20 (3d Cir. 1983) (affirming dismissal of state complaint seeking injunctive relief to shut down nuclear facility as a public nuisance on preemption grounds).

Notably, courts have held that preemption extends not only to substantive dictates concerning plant operations, but also to investigations of plant construction and operations, even when premised on non-radiological-health-and-safety concerns. In particular, in *County of Suffolk v. Long Island Lighting Company*, 728 F.2d 52, 56 (2d Cir. 1984), the U.S. Court of

Appeals for the Second Circuit affirmed the dismissal of a complaint by the County of Suffolk seeking an order allowing it to inspect an under-construction nuclear plant for information "essential to safety, *reliability, and economy of operation*" and seeking an injunction against the plant's operation. (Emphasis added). Despite the fact that the county's complaint relied in part on the economic effects of and reliability concerns pertaining to the plant's construction and operation, the Second Circuit explained that:

> To grant either of these actions would plainly intrude on areas of exclusive NRC jurisdiction. Pursuant to 42 U.S.C. § 2021(c)(1), the NRC retains responsibility to regulate "the construction and operation of any production or utilization facility." This necessarily includes the authority to inspect nuclear power plants. The NRC can, if it chooses, delegate this authority to the states, 42 U.S.C. § 2021(i), but it has not done so here.[11] Instead, through May, 1982 the NRC has undertaken a rigorous, systematic program consisting of 146 regular and three special on-site inspections of Shoreham. Since September 30, 1979 the NRC has assigned permanent inspectors to Shoreham for purposes of making daily inspections. Under the standard of preemption enunciated by the Supreme Court in *Pacific Gas, a court ordered inspection, whether it be for safety or non-safety reasons, would obviously invade the NRC's exclusive regulatory province.*

Id. at 59-60 (emphasis and footnote added).

Against the many judicial decisions finding state regulation of approved or existing nuclear facilities to be preempted, only a handful have found state regulations not to be preempted. In each, the courts have found either (i) that Congress made clear that the state retained the authority to regulate in a particular area, *see, e.g.*, *PG&E*, 461 U.S. at 207-10 (Congress left to the states the power to make economic considerations about the need for new utility plants); *Silkwood v. Kerr-McGee Corp.*, 464 U.S. 238 (1984) (upholding a state tort award of punitive damages against a nuclear operator from harm suffered from radiological exposure,

[11] Vermont is not a so-called "Agreement State," meaning no authority has been delegated to it by the NRC.

on grounds that Congress made clear when enacting the Atomic Energy Act that it did not intend to usurp traditional state tort remedies for exposure to nuclear radiation); *Citizens for an Orderly Energy Policy v. County of Suffolk*, 604 F.Supp. 1084 (E.D.N.Y. 1985) (holding that local government not required to participate in emergency-response planning for nuclear facility, based on legislative history demonstrating that congress contemplated that state or local governments could refuse to so participate); or (ii) that the challenged action was only loosely connected, if at all, to plant construction, operation and nuclear safety, *see, e.g.*, *General Electric*, 496 U.S. at 84 (holding that traditional state law tort of intentional infliction of emotional distress not preempted as applied to nuclear-plant employee's claim of wrongful termination based on complaints about nuclear safety); *Kerr-McGee Chemical Corp. v. City of West Chicago*, 914 F.2d 820 (6th Cir. 1990) (city's stated intention to apply the "Erosion and Sedimentation Regulations" of the city's building code to the decommissioning of a nuclear facility not facially preempted); *Maine Yankee* 107 F.Supp.2d at 55 (noting that state could require nuclear facility to comply with state regulations relating to "aesthetic landscaping requirements, or flood or soil erosion control measures" in connection with decommissioning the facility).

II. The Actions the Board Has Been Asked to Consider in Docket 7600 Are Preempted

Applying the law discussed in Part I to the scope of Docket 7600 as defined by the Board, the Board should reach the conclusion that this investigation is preempted, as are each of the potential responsive actions that the Board has been asked to consider: requiring the VY Station to shut down or take other ameliorative action pending repairs of the leaks; modifying or revoking the VY Station's CPG in response to the leak; or imposing penalties on Entergy VY for violation of Vermont statutes or Board orders related to the leak.

A. Preemption Exists Even Though the Board Pointed To "Non-Radiological-Health-and-Safety" Motivations for This Docket

The Board initially concluded that it might have some jurisdiction to investigate and order action in response to the leakage of radionuclides because "the leaks may have economic and other non-radiological-health-and-safety consequences." *Supra* at 11. Under the case law discussed above, however, that there are "economic and other non-radiological-health-and-safety consequences" is insufficient to avoid a finding of preemption. As the Supreme Court stated in *General Electric*, a "broad suggestion that safety motivation is necessary to a finding that a particular state law falls within the occupied field lacks merit," *id.* at 212 & n.7, and as it stated in *PG&E*:

> we emphasize that *the statute does not seek to regulate the construction or operation of a nuclear powerplant*. It would clearly be impermissible for California to attempt to do so, for such regulation, *even if enacted out of non-safety concerns*, would nevertheless directly conflict with NRC's exclusive authority over plant construction and operation.

461 U.S. at 212 (emphases added); *see also supra* at 18-21 (discussing other cases).

Binding precedent, in other words, forecloses the Board's preliminary conclusion that Board action in this docket might not be preempted so long as the tritium leakage has some economic effects or effects implicating other, "non-safety" issues. Whether or not such effects exist, preemption must be found because tritium leakage directly and substantially implicates aspects of plant construction and operation subject to NRC regulation, and indeed implicates the core preempted issue of radiological safety. Notably, in *PG&E* itself the Supreme Court reaffirmed that a state "effort to regulate radioactive waste discharges from nuclear plants [falls] squarely within the field of safety regulation reserved for federal regulation," *id.* at 212 & n. 24, never suggesting that economic effects arising from discharges could trump that analysis. The lower courts likewise have concluded that state regulation of discharges of radionuclides,

including tritium, is preempted, and in doing so have reiterated that non-safety concerns are irrelevant to the preemption analysis. *See supra* at 19 (discussing *Manning*).

As discussed in the following sections, each action that the Board has been asked to consider taking against Entergy VY or the VY Station in response to the leakage would have a direct or substantial effect on plant construction and/or operations. As such, each is preempted.

B. Any Order to Shut Down the Plant Would Be Preempted

The first form of relief that parties have asked the Board to consider is an order requiring the immediate shutdown of the VY Station. Under the cases discussed above, such an order would be preempted by federal law. Obviously requiring the VY Station to stop operations in this docket would have a "direct and substantial effect" on plant operations. Unsurprisingly, therefore, multiple courts, including the U.S. Court of Appeals for the Second Circuit in *County of Suffolk*, have decided that an injunction requested by a state or local government against operation of a nuclear plant is preempted. *See supra* at 21. Indeed, there appears to be no example of a state ordering an operating, non-public utility plant to cease operations, without such order being found preempted.

C. Any Order Requiring Entergy VY to Take "Ameliorative Action" Is Preempted

The Board has also been asked in this docket to consider ordering "ameliorative action" in response to the leak. As described above, however, the storage and release of radionuclides, including standards for radionuclide emissions and measures to be taken in the event of an unplanned release, are subject to NRC regulation, and in fact the NRC has extensively regulated in this area. *See supra* at 5-6. No matter what the purpose—economics or nuclear safety—Vermont cannot, for example, order VY Station to store or dispose of tritiated water or contaminated soil in any particular manner or to construct any particular facilities for doing so,

as such an order would have a direct and substantial impact on aspects of plant construction and operation subject to the NRC's exclusive authority.

D. Any Order Imposing Penalties on Entergy VY for the Leakage Is Preempted

The Board also has said that it will consider whether to impose penalties on Entergy VY for violation of any Vermont statutes or Board orders related to the releases. This too would be preempted.

As an initial matter, any Vermont statutes or Board orders concerning the release of radioactive substances are themselves preempted because they have a direct and substantial effect on plant operation and radiological safety; as discussed above, NRC regulations deal comprehensively with the subject of the release of radiological materials, occupying the field. Imposing penalties on a nuclear plant for failure to comply with state laws is simply one means of enforcing such laws; if the state law concerning radionuclide releases is preempted, then so too is any penalty for violation of that law.

In related circumstances, courts consistently have held that state-law standards are preempted in tort actions against nuclear facilities pertaining to plant operations, including a tritium leak. *See, e.g., Smith v. Carbide and Chemicals Corp.*, 2009 WL 3007127, *2 (W.D. Ky. Sept. 16, 2009) ("Every federal circuit that has considered the appropriate standard of care under the Act agrees that federal safety standards should control"); *In re TMI Litig. Cases Consol. II*, 940 F.2d 832, 859 (3d Cir. 1991) ("states are preempted from imposing a non-federal duty in tort, because any state duty would infringe upon pervasive federal regulation in the field of nuclear safety, and would conflict with federal law"); *Reeves v. Commonwealth Edison Co.*, 2008 WL 239030 (N.D. Ill. 2008) (granting summary judgment to Exelon with respect to state tort suit arising from tritium leak because leak did not exceed federal guidelines for tritium discharge). While a penalty paid to the state may differ in some respects from a compensatory

award paid to private plaintiffs, the direct and substantial effect of a state-law-mandated payment on decisionmaking by nuclear facilities is no different. And in any event, as noted, the NRC has already concluded that federal standards were not violated in this instance. *See supra* at 9-10.

E. Modification or Revocation of Entergy VY's Certificate of Public Good is Preempted

The Board has also been asked to consider revoking or amending Entergy VY's existing CPG for the VY Station in response to the leakage.[12] It is not entirely clear what any modification would comprise, but the intent here seems to be to shut the VY Station down or to require some change in the VY Station's operation. For the reasons given in Subsections II.B and II.C, such regulatory action as a means of addressing the leakage is preempted. Moreover, any revocation or modification of the existing CPG would essentially be a penalty imposed on Entergy VY for violation of preempted state-law standards concerning releases of radiological substances and would be preempted on that basis as well.

F. The Board's Investigation Into Issues of Plant Construction and Operation and Radiological Safety is Preempted

Finally, to the extent the discovery ordered and sought in this docket delves almost entirely into the VY Station's construction (physical facilities including pipes) and operation (handling of tritiated water and response to the leak) as well as into issues pertaining to radiological safety (the environmental, economic and health impacts of the leakage), *see supra* at 12-13, then the investigation is preempted.[13] Entergy VY anticipates an argument that an investigation into the leakage by itself cannot be preempted, but such an argument is inconsistent with precedent and the "direct and substantial" test.

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[12] The issue is distinct from the question whether the Board will grant a new CPG with respect to operations after March 21, 2012, which is not being addressed in Docket 7600.

[13] As set forth in Entergy VY's motion for enlargement, there is a small subset of discovery served on Entergy VY by the other parties to this docket which does not fall into these preempted categories.

As to precedent, the decision in *County of Suffolk*, finding a plant inspection to be preempted, extends in principle to all aspects of an investigation. The decision in that case was based on the NRC's "exclusive regulatory province" over inspections of plant operations.[14] So too here, the NRC has authority over the very same construction, operational and safety issues raised in this docket with respect to the leakage, *see supra* at 5-6, and in fact has investigated the tritium leakage and overseen Entergy VY's response to the leakage, *see supra* at 7.

As to the direct and substantial test, cooperating with investigations by state authorities into nuclear-plant construction, operational and safety issues can impose significant costs and burdens—personnel time and overtime, attorney fees, risks inherent in maintaining the security of federally-restricted information, and so forth—on a nuclear operator, costs and burdens potentially as great (if not more so) than those of the on-site inspection at issue in *County of Suffolk*. The threat of imposing such costs and burdens on a nuclear operator gives not only states, but also non-government interest groups operating in state forums, the ability to leverage nuclear operators into complying with construction and operational standards not required under federal law. A state also cannot be permitted to impose such discovery obligations on a nuclear facility—whether in terms of written discovery, depositions or attendance at hearings—as would require critical plant personnel necessary for safe and efficient plant operation to subordinate their operational responsibilities, even if not deliberately, to the need to ensure full and accurate responses to state-ordered discovery. An investigation with its attendant costs and burdens may not be preempted if the subject matter of the state investigation is not preempted, but where, as here, the subject of the investigation—a radionuclide release—is at the core of the preempted field, any related investigation should be found preempted as well.

[14] The DPS can inspect the VY Station under the Memorandum of Understanding approved in Docket No. 6545.

CONCLUSION

For the foregoing reasons, Entergy asks the Board to find that it is preempted as a matter of federal law from taking any of the actions against Entergy VY or the VY Station requested by other parties to Docket 7600 and from investigating the tritium leakage.

St. Johnsbury, Vermont. May 18, 2010.

Respectfully submitted,

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